

I have the impression that cooperation is uncoordinated among the leading floristic authors, plant collectors, and the professional botanists. Barry Prigge states that for new species to be incorporated in future revisions, "Voucher specimens have to be made with collection data and deposited at a local herbarium." Several McAuley species are not listed as he (Prigge) has not seen them. Bob Muns in an October 1983 checklist states "I have found 20 more species growing in the Santa Monica Mountains." We in Santa Barbara also are guilty and can add two more species, *Lavatera arborea* L. and *Nicotiana clelandii* Gray. *Cordylanthus maritimus* Nutt. ex Benth. subsp. *maritimus* has been surveyed at the Mugu Lagoon by Julie M. Vanderwier and Judith C. Newman (Madroño 31:185–186. 1984), and others.

This flora is the only publication for these mountains with dichotomous keys and should remain the "scientific master list". It can only grow in scope with the help of many who have diverse interests. —CLIFTON F. SMITH, Santa Barbara Botanic Garden, 1212 Mission Canyon Rd., Santa Barbara, CA 93105.

Marcus E. Jones: Pioneer Western Geologist, Mining Engineer & Botanist. By LEE W. LENZ. xv + 486 pp., 9 pp. black and white photographs. Rancho Santa Ana Botanic Garden, Claremont, CA. 1986. ISBN 0-9605808-2-4, \$28.00 plus tax and \$1.50 shipping.

If Lee Lenz had done no more than compile and make generally available the excellent gazetteer of his subject's collecting localities and chronology for nearly a half century of field work, the botanical community would be greatly in his debt. For anyone who, like this reviewer, tends to identify Marcus E. Jones, A.M., solely with the Great Basin, the map on page 292 is a revelation, showing that he was active in every western state but Alaska and Hawaii, although his coverage was considerably more modest than his claims. His unconsummated "Flora of the Great Plateau" was to have embraced "the region west of the Plains" and extend well into both Canada and Mexico, in short, the American West.

But the author also has assumed the task of presenting a biography of Jones. This is a difficult assignment because the man and the scientist have become almost obscured by his reputation as a choleric, fiercely independent, feisty, rough-and-tumble combatant in a notably polemic era. Lenz allows Jones to speak for himself, but this does little to dispel the reputation. Jones was a born-again Protestant and frequently a lay preacher, but he was notably lacking in the Christian virtues of humility and charity. His strong religious commitment, however, did not pose an obstacle to his full acceptance of evolution, as it did for many of his contemporaries. The panoply of Nature was God's handiwork.

Born in Ohio, educated to a Master's degree at Iowa College (predecessor of Grinnell), he was prepared to teach Classics or, as was the custom in the West of his day, any other subject for which there was an opportunity. His precarious health drew him to outdoor life and his inclination to a career as a field naturalist. He did not succeed in establishing a firm institutional connection until late in life. He and his family, centered after 1880 in Salt Lake City, endured a grinding hand-to-mouth existence based on his irregular teaching assignments, preaching, free-lance writing on a variety of issues, and, increasingly, geological consulting. Mining investments seldom proved profitable and his performance as an expert witness for the prosecution in smelter-pollution law suits, while admirable, was not financially rewarding. His long-suffering wife augmented or supplied the family income with kindergarten teaching and operation of a rooming and boarding house.

Jones' most productive period botanically was undoubtedly from about 1880 to 1912. Every summer was devoted to collecting somewhere in the West, the winters to identifying, labeling, and distributing the resulting specimens for sale, and working on his "Flora." By 1885, access to the few existing botanical journals had been cut off, as it was to anyone who refused to have his proposals approved by members of the Eastern establishment. Launching of the journal *Zoë* by the Brandegees' provided

the opportunity to initiate his extensive series of "Contributions to Western Botany" in 1891, but a few years later he was doing his own publishing. The "Flora" was planned to be the first fully illustrated botany of the area. The manuscript for volume one was essentially completed by 1907, but the second remained incomplete, and there is no indication that he worked on it after he left Utah for California in 1923. Neither volume was ever published, and a "Trees and Shrubs of Utah" and a substantial "Flora of Flathead Lake" also remained in typescript.

Because Jones published relatively little of substance besides new species and trained no disciples, the book inevitably becomes in large part the history of his herbarium. By sale of collections, diversification of teaching stints, and consulting trips, he was able to cover an astonishing amount of territory, and amass a steadily growing private herbarium, which was clearly his first priority. From the early seventies until his death in 1934, he was continuously and vigorously adding specimens. Much of his concern in later years was finding a suitable home for it and, for the few active years remaining, for himself. In this he fortunately was successful. After brief flirtations with the California Academy of Sciences and the University of Utah, the herbarium was obtained for Pomona College by Phil Munz. Although terms of the sale provided for Jones to publish his "Flora", and he was now freed of financial worries for the first time in his life, much of the original area of his interest had long been preempted by other authors. He turned instead to field work in northern Mexico—further adding to his herbarium.

The author attempts a "summing up" of Jones' contributions, which particularly pairs him with Greene. Certainly the two were fellow mavericks and adepts at inventing colorful invective and generating hostility, but I think a closer comparison might have been made between Jones and Katharine Brandegee, whom he so greatly admired. Both had considerable gifts of critical analysis, but their special insights largely died with them.

The volume includes a list of published writings, diary and field notes, 1894 (Appendix I), the 112-page annotated gazetteer (Appendix II), and a list, with explanatory notes, of the nearly 800 new taxa that Jones proposed during his lifetime (Appendix III).

Incorporation of the Jones Herbarium into the Pomona-Claremont-Rancho Santa Ana research complex at last provides its creator the central role in West American botany that he never quite succeeded in attaining in life.—LINCOLN CONSTANCE, Dept. Botany, Univ. California, Berkeley 94720.

Botanical Illustration: Preparation for Publication. By NOEL H. HOLMGREN and BOBBIE ANGELL. 74 pp. The New York Botanical Garden, Bronx, NY 10458. 1986. ISBN 0-89327-272-8, \$12.

A quote the authors use in the beginning of this book could just as well apply to the authors themselves: "Well-ordered presentation is the sign of a well-ordered mind" (Alfred A. Blaker, 1977). This book is small, but it covers concisely and thoroughly all aspects necessary to produce a botanical illustration that is correct and aesthetically pleasing. I have done quite a bit of botanical illustrating, yet I was able to learn from this book. Holmgren and Angell not only cover basic illustrating guidelines, they also offer shortcuts and technical tips that can save both the illustrator and the author valuable time, money and energy.

Much has been written about scientific illustration (some of the better publications are included in a helpful Annotated Bibliography at the end of this book), but very little good information exists on the very special needs encountered in botanical drawings. From the first chapter, "Working Relationships", through others that include some useful information on tools, sizes and proportions of plates (including instruction on reductions), labels, captions, illustrations, maps and graphs, photographs and halftones, to preparing art for shipping, this volume contains a wealth of information in a very succinct and informative way. There is a good section on the